WHAT IS CLAIMED IS:

1. A method for optimizing a parameter in an implantable cardiac therapy device (ICTD), comprising:

(a) receiving a hemodynamic signal;

(b) filtering said hemodynamic signal to isolate low frequency data present therein;

(c) sampling said low frequency data according to a sample algorithm metric; and

(d) adjusting the parameter based on an analysis of said sampled low frequency data.

2. The method of claim 1, wherein said receiving step comprises receiving a hemodynamic signal generated by plethysmography.

3. The method of claim 1, wherein said receiving step comprises receiving a hemodynamic signal generated by echocardiography.

4. The method of claim 1, wherein said receiving step comprises receiving a hemodynamic signal representing blood pressure.

5. The method of claim 1, wherein said sampling step comprises sampling said low frequency data present in a portion of a frequency spectrum of said hemodynamic signal that is less than about one Hertz (1Hz).

6. The method of claim 5, wherein said sampling step comprises sampling said low frequency data present in a portion of a frequency spectrum of said hemodynamic signal that is between about 0.1 and about 1.0 Hz.

7. The method of claim 6, wherein said sampling step comprises sampling said low frequency data present in a portion of a frequency spectrum of said hemodynamic signal that is between about 0.03 and about 1.0 Hz.

8. The method of claim 1, wherein said adjusting step comprises adjusting an atrio-ventricular delay.

9. The method of claim 1, wherein said adjusting step comprises adjusting an inter-ventricular delay.

10. The method of claim 1, wherein said adjusting step comprises adjusting a voltage level for arrhythmia treatment.

11. The method of claim 1, wherein said adjusting step comprises selecting an arrhythmia treatment modality.

12. The method of claim 1, wherein said adjusting step comprises adjusting lead placement.

13. The method of claim 1, wherein said adjusting step comprises selecting pacing electrodes.

14. The method of claim 1, wherein said adjusting step comprises adjusting a pacing rate cutoff for the ICTD.

15. An apparatus for optimizing a parameter in an implantable cardiac therapy device (ICTD), comprising:

means for receiving a hemodynamic signal;

means for isolating low frequency data present in said hemodynamic signal;

means for sampling said low frequency data;

means for adjusting the parameter based on an analysis of said sampled low frequency data.

16. The apparatus of claim 15, wherein said receiving means is a programmable microcontroller of the ICTD.

17. The apparatus of claim 15, wherein said isolating means is a low pass filter having a cutoff frequency of approximately one Hertz.

18. The apparatus of claim 15, wherein said hemodynamic signal is generated by plethysmography.

19. The apparatus of claim 15, wherein said hemodynamic signal is generated by echocardiography.

20. The apparatus of claim 15, wherein said hemodynamic signal represents blood pressure.

21. A method for optimizing atrio-ventricular (AV) delay in an implantable cardiac therapy device (ICTD), comprising:

(a) receiving low frequency hemodynamic data representing a baseline AV-delay;

(b) calculating a baseline average of said data representing said baseline AV-delay;

(c) changing AV-delay to a desired sample point AV-delay;

(d) calculating a new average of data representing said desired sample point AV-delay;

(e) calculating a difference between said baseline average and said new average;

(f) returning to said baseline AV delay;

(g) repeating steps (b) through (f) for a desired number of additional sample point AV-delays, whereby step (e) produces a corresponding difference for each additional sample point AV delay; and

(h) selecting an optimal AV-delay based on said differences.

22. The method of claim 21, wherein said low frequency hemodynamic data exists in a low frequency portion of a hemodynamic signal that is less than about one Hertz.

23. The method of claim 22, wherein said low frequency portion is between about 0.1 Hz and about 1.0 Hz.

24. The method of claim 22, wherein said low frequency portion is between about .03 Hz and about 1.0 Hz.

25. A method for optimizing pacing lead placement in an implantable cardiac device, comprising:

(a) placing a pacing lead in a first position;

(b) receiving a first hemodynamic signal corresponding to said first pacing lead position;

(c) adjusting said pacing lead to a new position;

(d) receiving a new hemodynamic signal corresponding to said new pacing lead position;

(e) comparing said first and new hemodynamic signals;

(f) repeating steps (c) through (e) until no further comparisons are desired; and

(g) selecting a pacing lead position based on said comparisons.

26. The method of claim 25, wherein said receiving steps comprise filtering said first and second hemodynamic signals to isolate low frequency data present therein.

27. The method of claim 26, wherein said filtering step comprises filtering said first and second hemodynamic signals with a low pass filter having a cutoff frequency of about one Hertz.

28. The method of claim 26, wherein said filtering step comprises filtering said first and second hemodynamic signals with a band pass filter having a pass band between about 0.1 and about 1.0 Hz.

29. The method of claim 26, wherein said filtering step comprises filtering said first and second hemodynamic signals with a band pass filter having a pass band between about 0.03 and about 1.0 Hz.

30. A method for optimizing pacing rate cutoff in an implantable cardiac device, comprising:

(a) establishing a first pacing rate;

(b) receiving a first hemodynamic signal representative of said first pacing rate;

(c) establishing a second pacing rate;

(d) receiving a second hemodynamic signal representative of said second pacing rate;

(e) performing a comparison of said first and second hemodynamic signals;

(f) repeating steps (c) through (e) until no further comparisons are desired; and

(g) selecting a pacing rate based on said comparisons.

31. The method of claim 30, wherein said receiving steps comprise filtering said first and second hemodynamic signals to isolate low frequency data present therein.

32. The method of claim 31, wherein said filtering step comprises filtering said first and second hemodynamic signals with a low pass filter having a cutoff frequency of about one Hertz.

33. The method of claim 31, wherein said filtering step comprises filtering said first and second hemodynamic signals with a band pass filter having a pass band between about 0.1 and about 1.0 Hz.

34. The method of claim 31, wherein said filtering step comprises filtering said first and second hemodynamic signals with a band pass filter having a pass band between about 0.03 and about 1.0 Hz.